

Serial No. 10/443,571
Page 2 of 10

IN THE CLAIMS

1. (currently amended) A communication device connectable to an IP network, comprising:

an input queue holding received packets until the packets are sent for a next process;

a congestion monitor unit monitoring the input queue and determining whether the communication device is congested;

a congestion information creating unit creating congestion information concerning a congested state of the communication device, including an exception condition for traffic that does not use a congestion avoiding route when the congestion monitor unit detects the congested state thereof, the congestion information being sent to other devices connected to the IP network; and

wherein said congestion monitor further monitors a frequency of occurrence of congestion

a unit for determining a route that can avoid congestion for an input packet based on a frequency of occurrence of congestion at a packet destination of the input packet.

2. (currently amended) The communication device as claimed in claim 1, further comprising:

a routing table storing information used for routing an input packet; and

an updating unit updating the routing table upon receiving congestion information from another device recording the exception condition for traffic included in the congestion information so that packets matching the condition are transferred to an ordinary route.

84165156_1

Serial No. 10/443,571

Page 3 of 10

3. (original) The communication device as claimed in claim 1, wherein said congestion monitor unit detects a situation in which an input queue of the communication device overflows with packets so that packets are discarded.

4. (original) The communication device as claimed in claim 1, wherein said congestion monitor unit detects a situation in which packets are stored in an input queue of the communication device over a predetermined queue length.

5. (original) The communication device as claimed in claim 1, wherein the congestion information created by said congestion information creating unit is sent to other communication devices adjacent to the communication device.

6. (original) The communication device as claimed in claim 1, wherein the congestion information created by said congestion information creating unit is sent to other communication devices located within a given network range.

7. (original) The communication device as claimed in claim 1, further comprising a unit for relaying congestion information received from another network to a route via which packets can be transported.

8. (canceled)

84165156_1

9. (previously presented) The communication device as claimed in claim 1, further comprising a unit sending an input packet to an original route if congestion information is received both from another communication device in the original route and from a congested communication device in an alternative route.

10. (previously presented) The communication device as claimed in claim 1, further comprising a unit discarding an input packet if congestion information is received both from another communication device and from a congested communication device in an alternative route.

11. (canceled)

12. (previously presented) The communication device as claimed in claim 1, further comprising a unit notifying other communication devices of the frequency of occurrence of the congested state monitored by said congestion monitor unit and sending congestion information received from another communication device to a route having a smallest frequency of occurrence of congested state based on the congestion information received.

13. (previously presented) The communication device as claimed in claim 1, further comprising a unit sending information indicative of restoration from the congested state to other communication networks.

Serial No. 10/443,571

Page 5 of 10

14. (original) The communication device as claimed in claim 1, wherein said congestion monitor unit monitors one of an input interface and an output interface of said communication device.

15. (currently amended) A communication control method applied to a device connected to an IP network, comprising the steps of:

receiving a plurality of packets;

holding the received packets in an input queue until the packets are sent for a next process;

monitoring the input queue and determining whether the communication device is congested;

creating congestion information concerning a congested state of the communication device, including an exception condition for traffic that does not use a congestion avoiding route when the congested state thereof is detected, the congestion information being sent to other devices connected to the IP network;

defining an accounting system based on a packet discard ratio determined based on a congestion avoiding control; and

~~a unit for~~ determining a route that can avoid congestion for an input packet based on a frequency of occurrence of congestion at a packet destination of the input packet.

16. (currently amended) A communication control method applied to a device connected to an IP network, comprising the steps of:

receiving a plurality of packets;

84165156_1

Serial No. 10/443,571

Page 6 of 10

holding the received packets in an input queue until the packets are sent for a next process;

monitoring the input queue and determining whether the communication device is congested;

creating congestion information concerning a congested state of the communication device, including an exception condition for traffic that does not use a congestion avoiding route when the congested state thereof is detected, the congestion information being sent to other devices connected to the IP network; and

~~a unit for~~ determining a route that can avoid congestion for an input packet based on a frequency of occurrence of congestion at a packet destination of the input packet.

17. (original) The communication control method as claimed in claim 16, further comprising a step of:

updating a routing table storing information used for routing an input packet upon receiving congestion information from another device.

18. (currently amended) A system comprising:

a plurality of communication devices each connected to an IP network,

each of the plurality of communication devices comprising:

an input queue holding received packets until the packets are sent for a next process;

a congestion monitor unit monitoring the input queue and determining whether the communication device is congested;

84165156_1

Serial No. 10/443,571

Page 7 of 10

a congestion information creating unit creating congestion information concerning a congested state of the communication device, including an exception condition for traffic that does not use a congestion avoiding route when the congestion monitor unit detects the congested state thereof, the congestion information being sent to other devices connected to the IP network; and

a unit for determining a route that can avoid congestion for an input packet based on a frequency of occurrence of congestion at a packet destination of the input packet.

84165156_1